

60,130-2054; 01MRA0230

IN THE SPECIFICATION

Please amend the following paragraphs as indicated.

[5] According to the invention, a roof module is provided which comprises an outer shell and a foamed inner shell. The outer shell has a rim including an edge of cut and the inner shell extends as far as on the edge of cut. Such a roof module may be obtained by the following method: firstly, an outer shell is made available. Then the rims of the outer shell are cut to size. As a next step, the outer shell is placed in a foaming tool and a curable material is applied onto the outer shell. Subsequently the foaming tool is closed, a seal in the foaming tool pressing against the rim of the outer shell from outside towards inside. The curable material hardens, it stretches and reaches the edges of cut on the rim of the outer shell. The roof module produced in this way does not have to be cut to size after the foaming operation. Consequently, only so much of the material for the inner shell has to be introduced as is actually required for it; no loss occurs. As the inner shell extends as far as on the edges of cut at the rim of the outer shell, the edges of cut – which have been produced prior to foaming on cutting the outer shell to size – are sealed.

[6] According to a preferred embodiment, it is provided ~~for~~–that the outer shell is configured with an undercut on its rim. This can be obtained in that, on producing the roof module, the seal is pressed elastically against the outer shell when the foaming tool is being closed and plastically deforms the outer shell in this process. It is not required in this procedure to provide slider elements in the foaming tool which usually are required for producing the undercut on foaming. It is not required either that the outer shell has the undercut already before foaming. This, in fact, could be managed during production of the outer shell only with large expenditure.

[13] In Figs. 1 to 3 ~~these~~there is schematically shown a foaming tool 10 which consists of an upper part 12 and a lower part 14. Received in the lower part 14 is an outer shell 16 which will be a part of the roof module and which may consist of aluminum or plastics, for

60,130-2054; 01MRA0230

instance. The outer shell 16 has a rim 18 that ends at an edge of cut 20. The edge of cut is produced in the course of cutting the outer shell 16 to size.

[15] The upper part 12 of the foaming tool 10 has a sealing section associated to the rim 18 of the outer shell 16 and the head section 26 of the sealing 22. The sealing section consists of an end surface 30 and a pressure surface 32. The end surface 30 extends approximately perpendicular to the direction along which the upper part 12 and the lower part 14 of the foaming tool 10 are movable relative to each other. The pressure surface 32 extends obliquely to the end surface 30.

[16] When the foaming tool 10 is transferred from the open position shown in Fig. 1 into the closed position shown in Fig. 2, the obliquely extending pressure surface 32 engages the head section 26 of the elastic seal 22 and moves this head section 26 to the left due to a wedge effect. In so doing, the rim 18 resting at the head section 26 of the seal 22 is likewise moved to the left. When the foaming tool is in the closed state, the end surface 32-30 rests tightly on the upper side of the head section 26 of the seal 22. The edge of cut 20 of the rim 18 of the outer shell 16 lies opposite the end surface 30 at a small distance (see in particular Fig. 3).

[17] Prior to closing the foaming tool 10, there has been applied onto the outer shell 16 a foamable material which cures when the foaming tool has been closed, so that it forms an inner shell 34 on the inner side of the outer shell 16. As can be taken in particular from Fig. 3, the inner shell extends along the rim 18 as far as on the edge of cut 20 which is covered by the material of the inner shell 34. In the region where the material of the inner shell 34 rests at the head section 26 of the seal 22, namely between the edge of cut 20 on the outer shell ~~15-16~~ and the end surface 30 of the upper part 12 of the foaming tool, the inner shell extends away from the edge of cut in extension of the outer surface of the outer shell. The material which is present there, seals the edge of cut 20. As the head section 26 of the seal has moved the rim 18 of the outer shell 16 towards inside on closing of the foaming tool, the rim 18 of the outer shell 16 rests at the head section 26 of the seal 22 with a sufficiently high force, so that the material of the

60,130-2054; 01MRA0230

inner shell 34 cannot enter the region between the rim 18 of the outer shell 16 and the head section 26 of the seal 22 and, hence, cannot emerge from the foaming tool. With this, the rims of the roof module formed by the outer shell 16 and the inner shell 34 are smooth after foaming, without the need of a subsequent cutting operation.

[19] The difference between the first and the second embodiment is that in the second embodiment the pressure surface 32 is inclined more, so that upon closing of the foaming tool, the head section 26 of the seal 22 is moved to the left to a greater extent. In the process, the rim 18 of the outer shell 16 is moved to the middle of the outer shell 16 so far that the outer shell is undercut, i.e., the edge of cut lying further inwardly than does the rim 18 in the region of the transition to the horizontally extending middle section of the outer shell 16. The deformation of the rim 18 on closing of the foaming tool is preferably a plastic one, so that after opening the foaming tool, only a slight spring-back occurs ~~which that does not impose an exceed-excessive~~ load on the fit of the inner shell 34 on the outer shell 16. It is, e.g.for example, in ~~the-a~~ region of ~~the-a~~ rear flap of a vehicle provided with the roof module, where the undercut can be of advantage.